4/18/88 A25752

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005

Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

Vol. 12, No. 3

APRIL 13, 1988

MARCH 1988

SUMMARY

With one of the largest year-to-year increases in more than two years, March's strong deliveries, when combined with the high level of deliveries earlier in the quarter, may point to some increase in the growth in demand. For the month, the 1.3 million B/D, 8 percent increase sprang from larger-than-typical increases for most major products; the quarter's increase was almost 900 thousand B/D or 5.4 percent. Consumption growth for the first quarter, nevertheless, is estimated at about half of this.

Though it is unusual for deliveries' growth rate over a three-month period to differ from underlying trends by as much as implied for this year's first quarter, we are reluctant to believe that consumption has shifted upwards this sharply in the past three months. By most accounts, the economy, though apparently not faltering as some had earlier feared, was, at best, continuing along somewhere near its previous growth path in the first quarter; petroleum prices, though weakening somewhat during the quarter, did not decline enough to have a major impact on consumption for most products. Analysis of end-use markets continues to indicate overall growth in consumption on the order of 2.5 to 3 percent.

For March, gasoline deliveries rose 5.5 percent, year-to-year, versus estimated consumption growth on the order of 2 percent. Distillate deliveries jumped almost 14 percent, partly reflecting possible effects of new excise tax collection procedures as of April 1. Residual fuel oil deliveries rose year-to-year for the third month in a row, the nearly 9 percent increase continuing a reversal of last year's decline, while deliveries of other oils are also estimated to have risen about 9 percent. Although kerosine jet fuel managed only a weak, 2 percent rise in March, the quarter's nearly 6 percent increase in deliveries corresponded with estimated growth in air traffic.

Imports' nearly 16 percent rise for the quarter is roughly the same as experienced in the first three months of last year, but the relative roles of declining domestic production and rising consumption have shifted. In last year's first quarter, falling domestic production accounted for much of imports' rise. Though lower 48 production so far this year continues to decline at about the same quarter-to-quarter rate that it has since late 1986, recent additions to capacity in Alaska have partially compensated for the declines in the rest of the U.S. But while the decline in total crude production has been less, estimated demand growth, even though less than the increase in deliveries, has so far been greater this year than last.

Refinery utilization for the quarter was up by almost 4 percentage points over a year ago; if idle capacity is excluded, utilization of capacity in actual operation has been running in the high 80s. Despite the high level of deliveries, total inventories declined only 15 million barrels, about 10 million barrels less than the recent-year average.

PRODUCT SUPPLIED[1/]

Gasoline

DELIVERIES RISE 3.9 PERCENT FOR THE QUARTER.

Motor gasoline deliveries were up 5.5 percent for March and 3.9 percent for the quarter —both significantly above the average increase of 2.1 percent for all of 1987. Even with continued moderate economic growth and a modest softening in retail prices over the past half year, the increases in deliveries appear higher than what other indicators suggest for consumption. Travel has been rising at a 3.5 to 4 percent annual rate (January's nearly 5 percent rise in miles traveled was due partly to comparison with below-trend travel for the year-ago month). Efficiency gains from the continued replacement of older vehicles with new, more fuel-efficient models imply a growth rate for gasoline consumption of about half that rate, in the neighborhood of 2 percent.

The decline in retail gasoline prices of the past six months has been moderate in comparison with fluctuations of the previous two years, and, in fact, partly reflects normal seasonal patterns. Since August, unleaded regular has fallen roughly 8 cents per gallon—a little less than half of it seasonal—after rising about 17 cents from a November 1986 low point. With the most recent decline, prices are nearly 30 cents lower than in late

API ESTIMATES

	MARCH		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	17.2	8.0	17.2	5.4
Crude oil production[2/]	8.2	(1.9)	8.2	(2.2)
Total imports[3/]	6.7	20.9	6.7	15.9
Stocks (million bbl)[3/]	1,021	(1.9)	na	na

1985, roughly paralleling the decline in crude oil costs over that period. Adjusting for inflation, this amounts to almost a 30 percent decline in real prices compared with a little over two years ago.

Distillates

MARCH JUMP MOSTLY UNEXPLAINED BY TRENDS IN USAGE. For March, distillate deliveries jumped 13.7 percent or over 400 thousand B/D from a year ago, an unusually large change even for the sometimes volatile deliveries of this product. The month's increase helped to bring the rise for the quarter to 7.5 percent.

Consumption-related factors can explain only a little more than a fourth of March's unusually large rise. With weather only about 5 percent colder than last year for a month at the end of the heating season, the effect on the year-to-year comparison is estimated at only about 10 to 20 thousand B/D. Transportation consumption, although continuing to grow significantly, cannot fully account for the remaining gap. Data on truck traffic growth is overstated because of methodological problems having to do with mergers, but economic activity nevertheless indicates strong demand for on-highway diesel; for the first two months of this year, industrial production has risen an average 6 percent over the year-ago period, and manufacturer's shipments, nearly 8 percent. Higher truck traffic, together with an increase in rail traffic averaging about 7 percent, are estimated to have added nearly 100 thousand B/D to distillates' year-to-year increase for March.

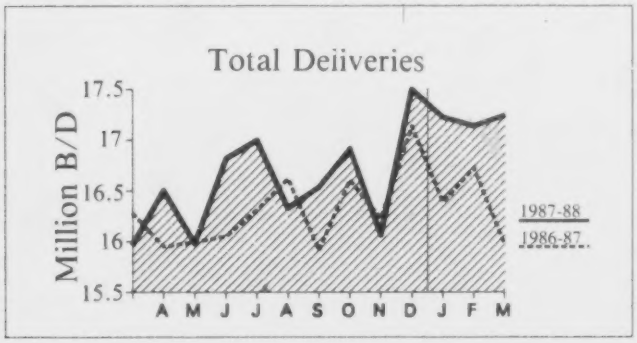
Activity in other sectors, for the most part, have little to add to the month's comparison; industrial usage may be up slightly, but construction activity has been flat compared with last year and planned farm acreage has been holding steady. Consumption growth therefore appears to be much less than March's increase in deliveries. Given the changes in the collection of diesel excise taxes scheduled for April 1, it is probable that some tax-exempt purchasers sought to buy fuel beyond current needs during March, accounting for at least part of the month's unusually large deliveries increase.

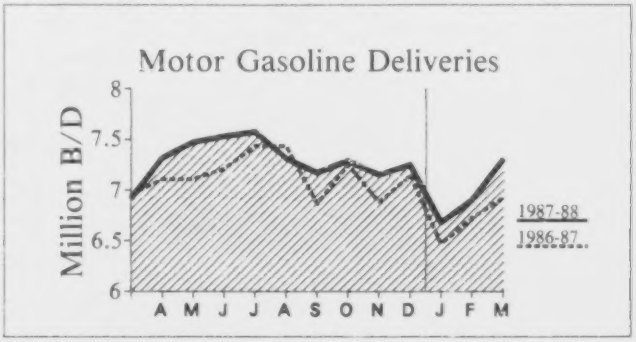
Residual Fuel Oil

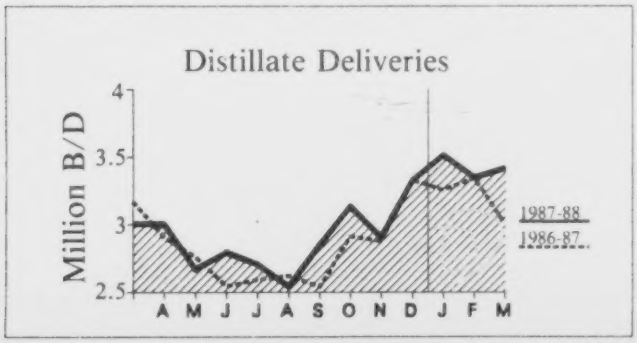
REVERSAL OF 1987'S DECLINE CONTINUES. Residual fuel oil deliveries were estimated to be 1,326 thousand B/D, down 11.6 percent from February but up 8.7 percent from March 1987. Although substantial, the decline from the previous month is somewhat less than the seasonal norm, even though February deliveries were also substantially higher than last year. As a result, March is the third consecutive month in which deliveries have exceeded those of the previous year.

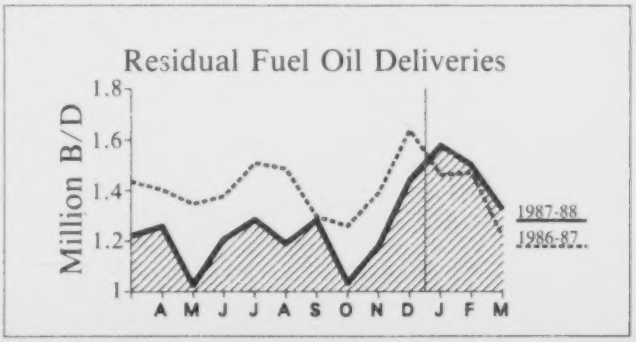
Continued high demand by the electric utility sector is believed to have accounted for some of the strength in residual fuel oil deliveries. Some utilities experienced spot curtailments of natural gas as a result of reduced transportation by some pipelines, requiring occasional switching to heavy oil as a marginal fuel. Although residual fuel prices, on average, were somewhat higher than natural gas prices for much of the month, some utilities reported that oil was less expensive than natural gas, enabling fuel oil to maintain its share of that market. The weather, which was close to the seasonal norm for the month and only slightly colder than a year ago, had little effect on deliveries of heavy fuel oil to this sector.

Deliveries to the industrial sector were apparently slightly greater than those of the previous month, because continuing increases in industrial production are believed to have maintained the demand for heavy fuel oil in this sector.









Kerosine Jet Fuel

QUARTER'S GROWTH IN LINE WITH AIR TRAFFIC.

In contrast with the other major fuels, deliveries of kerosine jet fuel were not particularly strong in March, rising only 2 percent—following even weaker performance in February. However, with January's unusually large surge included, the quarter's year-to-year growth averages out to almost 6 percent against first quarter 1987 data, similar to the estimated increase in air traffic.

Kerosine jet fuel deliveries, however, have not always corresponded well with air traffic growth, even on a longer term basis. For example, for 1987, Department of Energy data showed only a 3.6 percent increase in deliveries despite an increase in miles flown of about 8 percent. As noted in the past, there has been concern that imported jet fuel removed from bonded storage may not have been fully reflected in published deliveries data. A Department of Energy investigation has found that this, in fact, has been the case, particularly towards the latter part of 1987; the Department is now taking steps to include these quantities. Revised data for 1987 imports are higher than previously published figures by a relatively modest 16 thousand B/D for the first quarter, rising to 44 thousand B/D by the fourth quarter—enough to add an average 2.6 percent to deliveries for last year as a whole. Not all of this, however, would translate into a higher deliveries growth rate for last year, since deliveries for 1986 may have been understated as well.

Other Oils

STRONG MARCH PUTS QUARTER'S INCREASE AT 5.8 PERCENT.

Deliveries of other oils for March are estimated to be 4,118 thousand B/D, representing a decrease of 2.5 percent from February's levels but an increase of 9.1 percent from March 1987. The decline from the previous month is somewhat less than the seasonal norm, despite the high level of deliveries recorded in February. This implies continued strength in the other oils category on a seasonally-adjusted basis.

Sustaining a pattern of the last several months, deliveries of petrochemical feedstocks are believed to have dominated the other oils category. Feedstock demand appears to have been bolstered by both continuing increases in domestic industrial production and export demand for petrochemical products, especially to the Pacific Rim, as a result of the continuing slide in the dollar. Propane and ethane remain strong favorites as feedstocks, but naphtha deliveries are also believed to have increased substantially during the month. Because weather did not differ significantly from historical patterns, demand for space-heating fuels was believed to have been in line with seasonal expectations, contributing little to the surge in other oils deliveries.

Increased asphalt and road oil deliveries, supported by unusually high imports, are also believed to be contributing to the high level of other oils deliveries. Although high activity is not normally expected at this time of year, several regions have apparently already resumed building and maintenance programs with the help of funding provided by earlier passage of the Federal highway bill.

SUPPLY[1/]

Production

LOWER 48'S DECLINE SHOWS NO SIGN OF SLOWING.

Though additions to capacity in Alaska have provided some incremental production there, output in the lower 48 has continued to decline at much the same quarter-to-quarter rate of the past year or more.

When crude oil prices collapsed two years ago, lower 48 production dropped rapidly. In the second and third quarters of that year, the quarter-to-quarter decline in production outside Alaska, expressed at an annual rate, averaged about 16 percent.

From then until the fourth quarter of 1987, with crude oil prices stabilizing and even recovering slightly at times, that rate of decline slowed to an average 4.5 percent or 300 thousand B/D per year, a rate maintained in this year's first quarter.

The continued decline in lower 48 production has come at a time when drilling activity has been experiencing only a modest recovery. Although API's estimated oil well completions for the first quarter were up about 16 percent over a year ago, they represented only half the rate of drilling of the same period two years ago.

Imports

RISE CONTINUES, REASONS SHIFT.

Total imports for the first quarter were up over 900 thousand B/D or nearly 16 percent versus first quarter 1987, roughly the same size increase experienced one year earlier. Altogether, imports have risen by more than a third in the past two years, though the combination of demand growth and production declines responsible have differed. From first quarter 1986 to first quarter 1987, falling production accounted for most of the increase in imports, with rising consumption playing a much smaller role. Even recognizing that this year's first quarter surge in deliveries of nearly 900 thousand B/D likely overstates consumption increases, the relative roles of demand growth and production declines have nevertheless been reversed so far this year. In the more recent comparison, the increase in Alaskan production helped to hold the decline in U.S. output to about 150 thousand B/D for the quarter, but higher growth in consumption, estimated at 400 to 500 thousand B/D, has been taking a more prominent role in increasing the need for imports.

Though crude oil imports have continued in the 4.5 to 4.7 million B/D range since December, products again declined month-to-month in March, to about 2.0 million B/D, from their unusually high level in January. Year to year, however, product imports were still higher than last year by 7.4 percent or almost 140 thousand B/D. With imports of gasoline and components rising only 7 thousand B/D, distillates falling 20 thousand B/D, and residual fuel oil increasing 22 thousand B/D, most of the increase appears to be in partially-refined material for further processing. In January, the latest month for which data are available, imports of unfinished oils had risen over 200 thousand B/D, year to year.

Refinery Operations

UTILIZATION 6 POINTS ABOVE LAST MARCH.

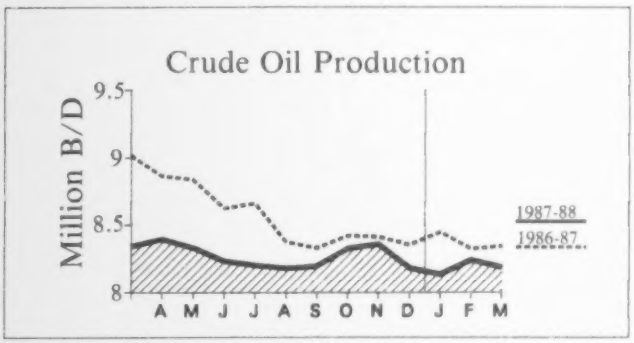
From February to March, input to distillation units rose by about 330 thousand B/D, returning to a level similar to January's. On the basis of operable capacity, March's utilization rate was 84 percent, up more than 6 points over last March. However, when account is made of some capacity which is classified as operable but is currently idle, refinery capacity in actual operation amounts to only about 15 million B/D. Calculated on this basis, utilization rates for March and recent previous months would have ranged for the most part from 87 to 89 percent—not far short of the historic highs in the low 90s achieved in the early 1970s. Utilization of downstream units is no doubt even greater.

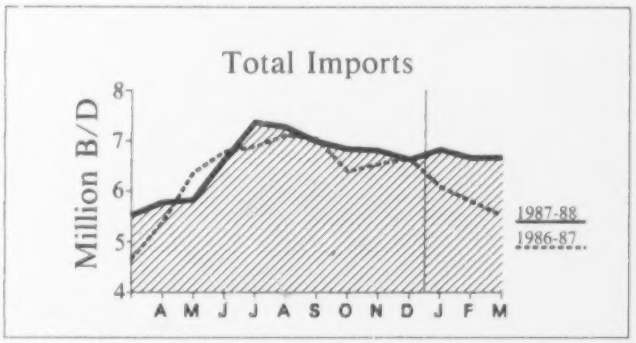
With the unusually strong distillate deliveries for March, refineries delayed the seasonal reorientation towards gasoline and responded with yield patterns tilted more towards distillate than usual for the month. With input rising over 8.2 percent, year to year, gasoline production increased only about 3 percent while distillate output jumped more than 14 percent. Residual fuel oil production, reflecting the recent growth in deliveries, also rose by almost 8 percent.

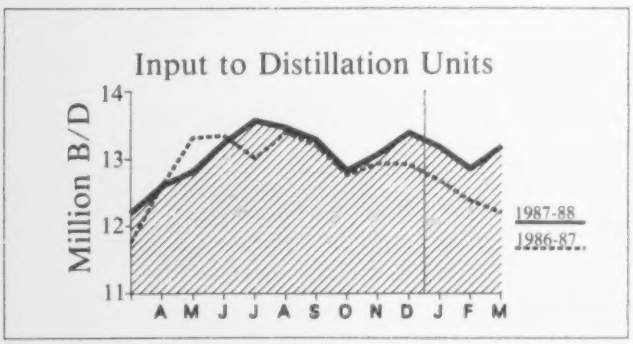
Inventories

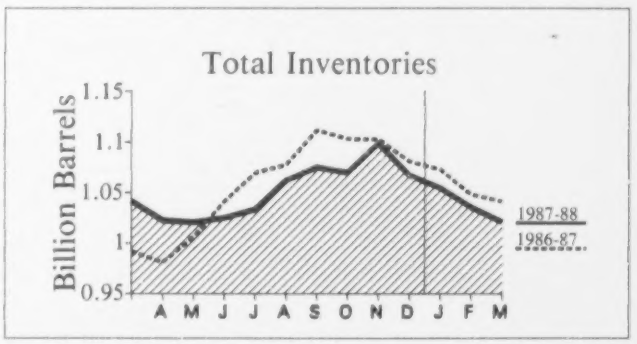
DISTILLATE STOCKS END MONTH AT 92 MILLION BARRELS.

Total inventories fell 15 million barrels in March, roughly 10 million barrels less than the normal pattern. Distillate stocks declined 17 million barrels to 92 million barrels. Though this was 4 million barrels less than the recent-year, end-of-season low set in 1986, no major supply problems have been reported, suggesting that the "minimum operating inventory" for distillate may be even lower than some have estimated as the role of inventories in distillate supply has continued to diminish. Over the October-March period, distillate stocks supplied only 6 percent of supplies, despite a strong increase in deliveries for the season. Current refinery production supplied 89 percent, and net imports, the remainder. Gasoline stocks in March declined 8 million barrels, about in line with the recent-year average for the month.









1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 545 million barrels as of March 31, 1988).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	MARCH			YEAR-TO-DATE		
	1988[1]	1987[2]	% Change	1988[3R]	1987[2]	% Change
Products Supplied:						
Total motor gasoline	7,303	6,921	5.5	6,969	6,705	3.9
Finished leaded motor gasoline*	1,492	1,771	(15.8)	1,386	1,733	(20.0)
Finished unleaded motor gasoline*	5,811	5,150	12.8	5,583	4,972	12.3
Naphtha-jet	209	193	8.3	202	192	5.2
Kerosine-jet	1,151	1,128	2.0	1,233	1,166	5.7
Distillate fuel oil	3,418	3,005	13.7	3,438	3,199	7.5
Residual fuel oil	1,326	1,220	8.7	1,469	1,381	6.4
All other oils[4]	4,118	3,775	9.1	4,192	3,962	5.8
Reclassified[5]	- 283	- 276	2.5	- 278	- 261	6.5
Total domestic products supplied	17,242	15,966	8.0	17,225	16,344	5.4
Exports	974	726	34.2	922	844	9.2
Total products supplied	18,216	16,692	9.1	18,147	17,188	5.6
Supply:						
Domestic production:						
Crude oil[6]	8,187	8,343	(1.9)	8,186	8,372	(2.2)
Natural gas liquids	1,606	1,607	(0.1)	1,599	1,607	(0.5)
Other supply[7]	1,278	998	28.1	1,137	951	19.6
Total domestic supply	11,071	10,948	1.1	10,922	10,930	(0.1)
Imports:						
Crude oil, total	4,660 10/	3,647 10/	27.8	4,594 10/	3,933 10/	16.8
Canadian	666	526	26.6	652	544	19.9
Other	3,994	3,121	28.0	3,942	3,389	16.3
Products, total	2,015	1,876	7.4	2,134	1,874	13.9
Residual fuel oil	574	552	4.0	671	610	10.0
Other	1,441	1,324	8.8	1,463	1,264	15.7
Total imports	6,675	5,523	20.9	6,728	5,807	15.9
Total supply	17,746	16,471	7.7	17,650	16,737	5.5
Stock change, all oils	- 470	- 221	XXXX	- 497	- 451	XXXX
Refinery Operations						
Input to crude oil distillation units	13,180	12,198	8.1	13,072	12,417	5.3
Operable capacity	15,697	15,663	0.2	15,770	15,635	0.9
Refinery utilization (%)[8]	84.0%	77.9%	7.8	82.9%	79.4%	4.4
Crude oil runs	13,026	12,085	7.8	12,920	12,318	4.9

Stocks (millions bbls.)	1988		1987[2]	% Change from ...	
	Mar. 31[9]	Feb. 29[9]	Mar. 31	Previous Month	Year Ago
Crude oil 10/	344.7	341.5r/	333.4	0.9	3.4
Unfinished oils	101.4	97.2r/	107.6	4.3	(5.8)
Total motor gasoline**	229.9	238.1r/	249.2	(3.4)	(7.7)
Finished leaded motor gasoline*	48.5	51.4	65.3	(5.6)	(25.7)
Finished unleaded motor gasoline*	144.4	147.9r/	140.5	(2.4)	2.8
Naphtha-jet	6.7	6.4	6.7	4.7	-
Kerosine-jet	38.9	37.3r/	41.4	4.3	(6.0)
Distillate fuel oil	91.6	108.8r/	110.0	(15.8)	(16.7)
Residual fuel oil	42.1	44.0r/	39.6	(4.3)	6.3
All other oils	165.6	162.2r/	152.5	2.1	8.6
Total all oils	1,020.9	1,035.5r/	1,040.4	(1.4)	(1.9)

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January, U.S. Department of Energy, February-March, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.